

FIG. 1A

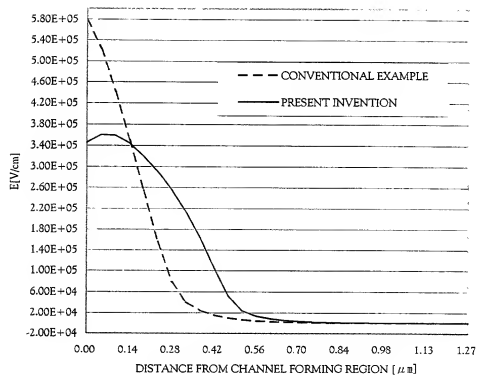


FIG. 1B

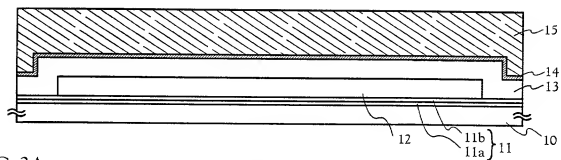


FIG. 2A

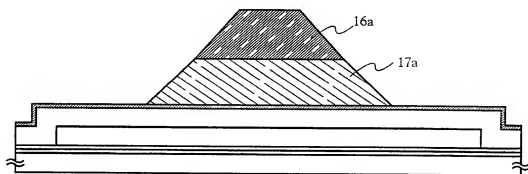


FIG. 2B

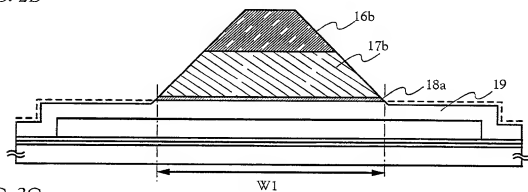


FIG. 2C

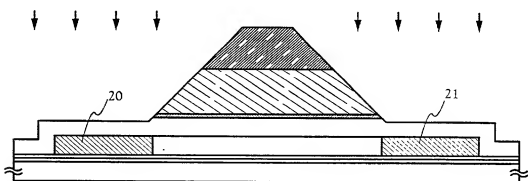


FIG. 2D

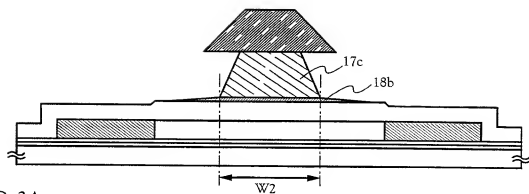


FIG. 3A

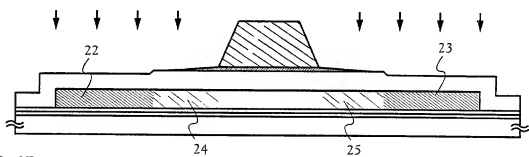


FIG. 3B

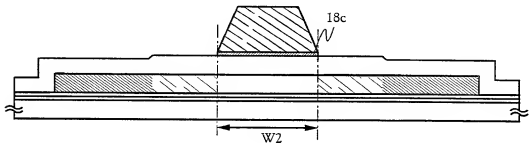


FIG. 3C

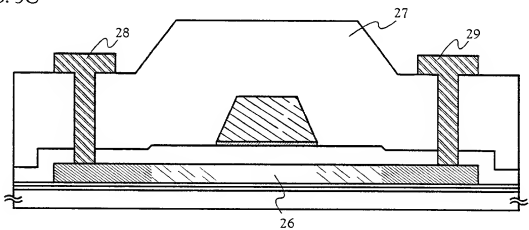


FIG. 3D

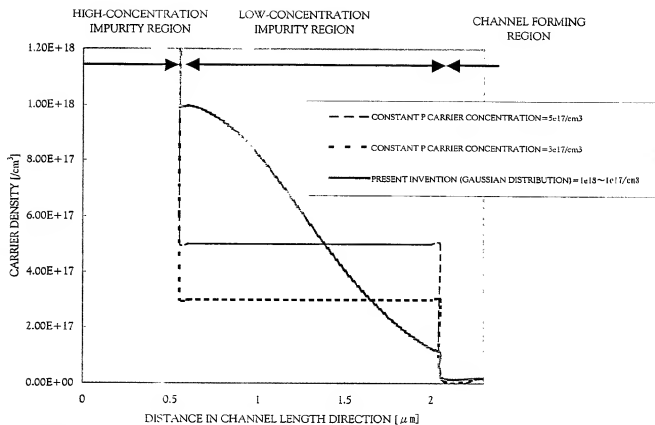


FIG. 4

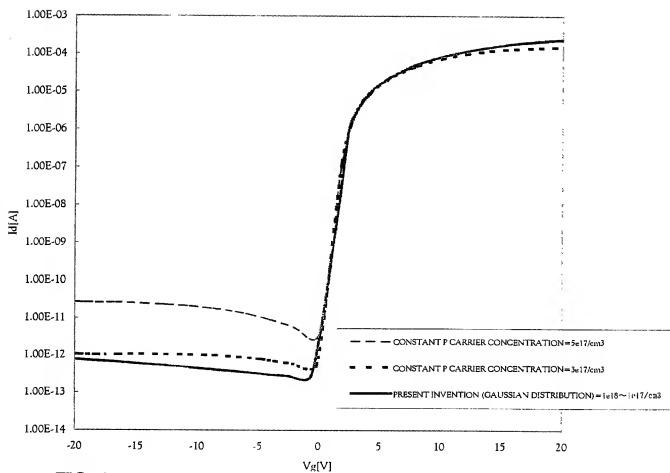


FIG. 5

I_d - V_g CURVE $V_d = 14V$ $L/W = 6/4$

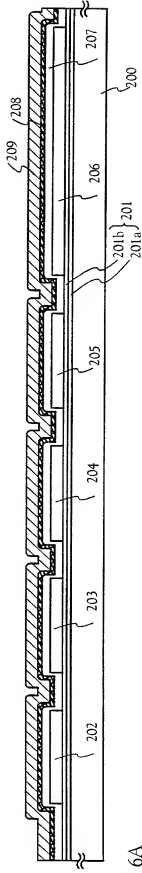


FIG. 6A

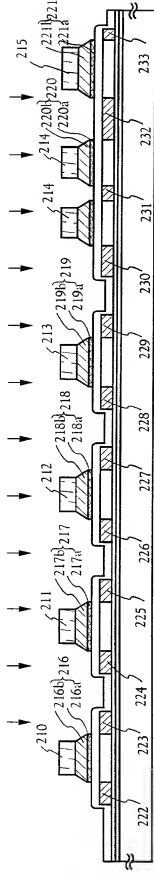


FIG. 6B

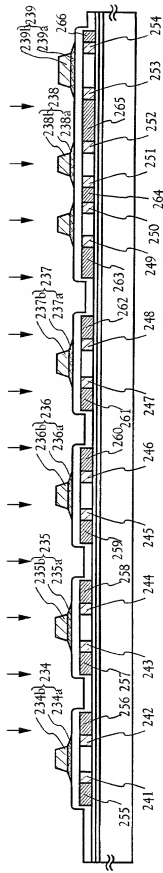


FIG. 6C

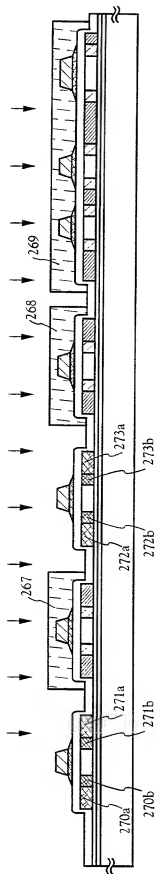


FIG. 7A

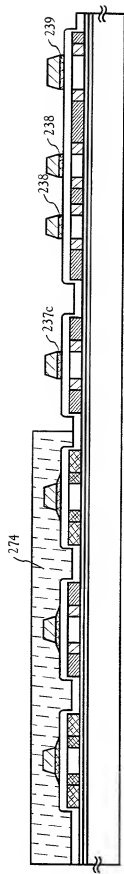


FIG. 7B

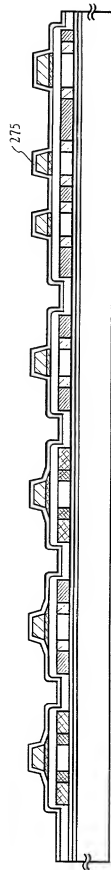


FIG. 7C

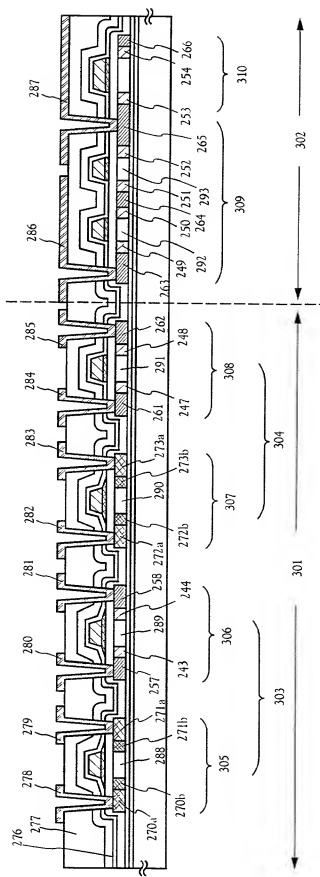


FIG. 8

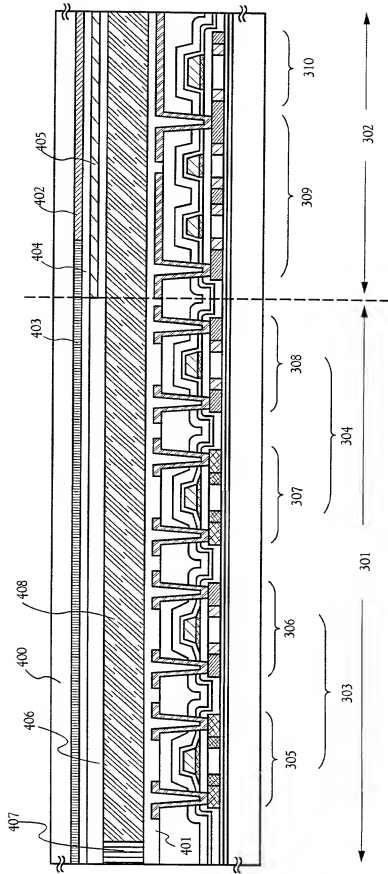


FIG. 9

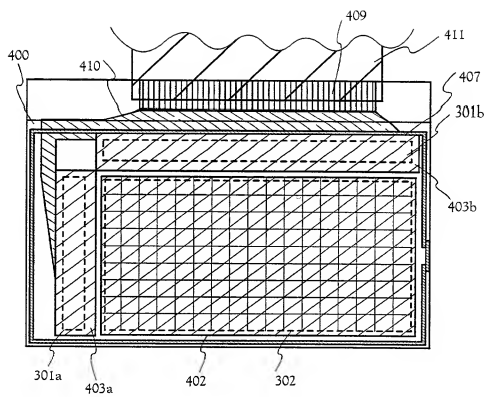
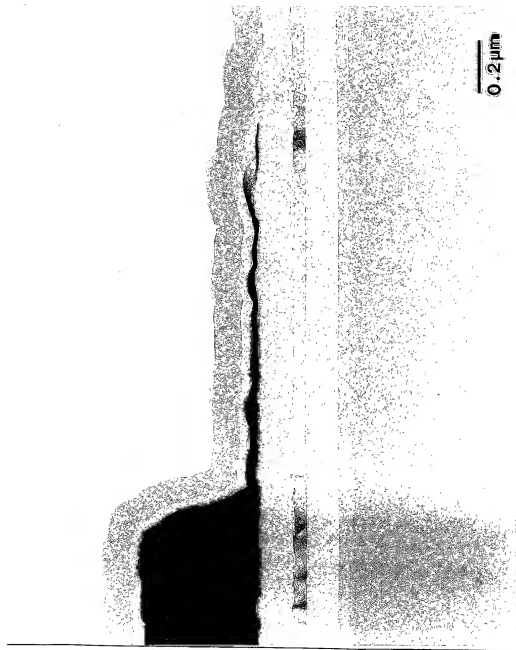


FIG. 10



TEM PHOTOGRAPH
(CROSS SECTION)

FIG. 11

104201-11121004



TEM PHOTOGRAPH
(CROSS SECTION)

FIG. 12

(N_{ch}, L/W= 6/4, T_{ox}= 115)

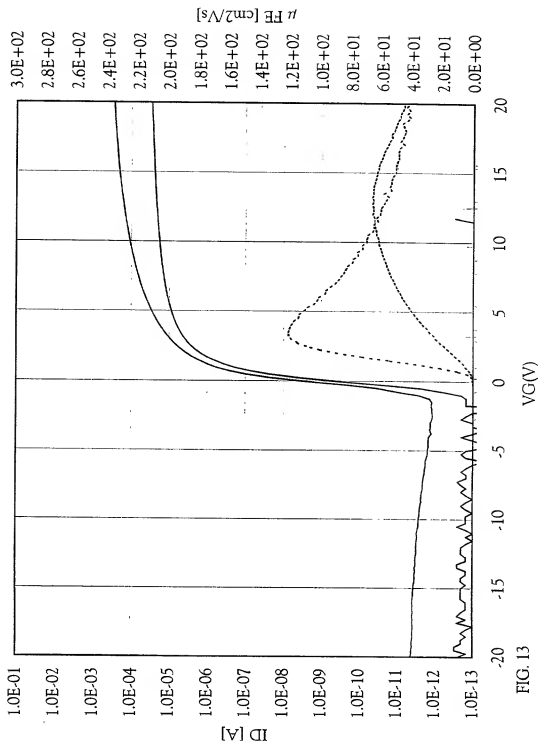


FIG. 13

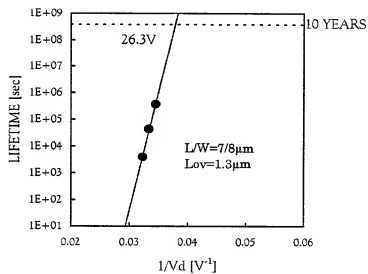
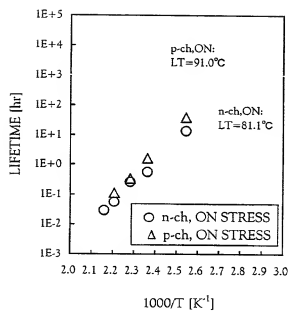


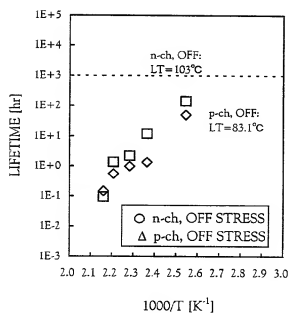
FIG. 14

DRIVING CIRCUIT TFT
10-YEAR GUARENTEE VOLTAGE



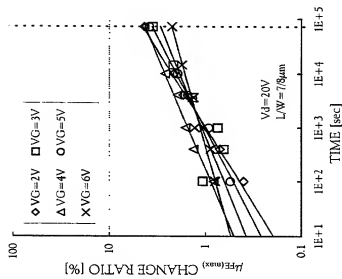
1000-HOUR LIFETIME TEMPERATURE
 UNDER ON STRESS
 (Δshift₁=0.1V)

FIG. 15



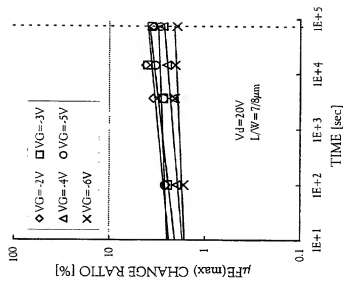
1000-HOUR LIFETIME TEMPERATURE
UNDER OFF STRESS
($\Delta shift_1 = 0.1V$)

FIG. 16



CHARACTERISTICS CHANGE OF
N-CHANNEL TFT
UNDER TRANSIENT STRESS

FIG. 17A



CHARACTERISTICS CHANGE OF
P-CHANNEL TFT
UNDER TRANSIENT STRESS

FIG. 17B

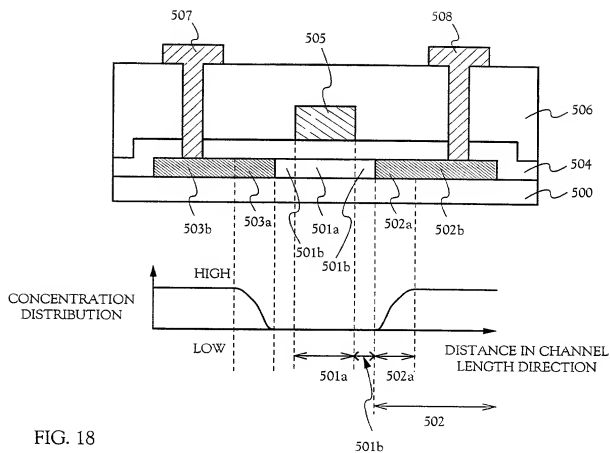


FIG. 18

(N=ch, L/W=6/4, T_{ox}= 115)

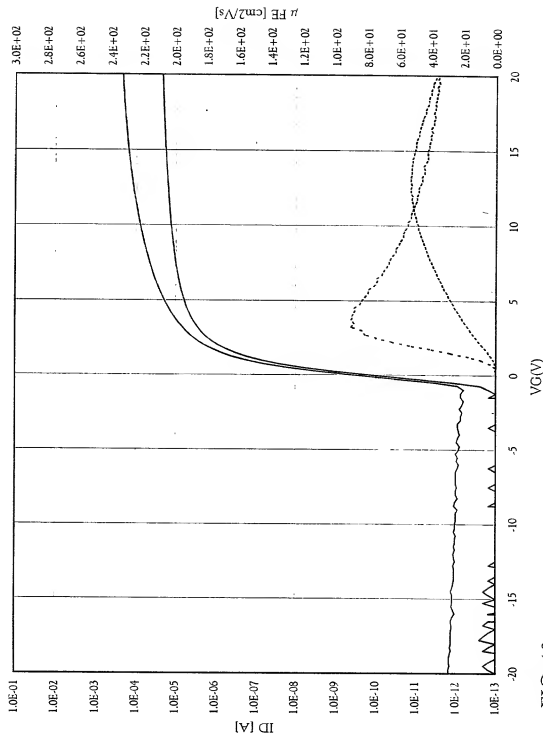
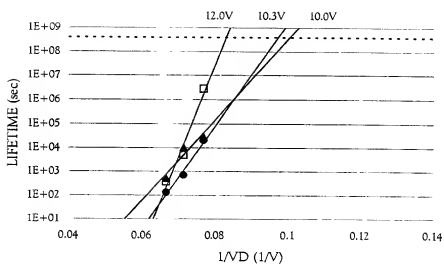


FIG. 19



PIXEL TFT WITH $L/W = 6 \times 2/4 \mu m$
WITH LIFETIME AS WHEN 10% OF
 I_{on_1} IS DEGRADATED

● PIXEL TFT OF EMBODIMENT 1
□ PIXEL TFT OF EMBODIMENT 3
▲ CONVENTIONAL EXAMPLE

FIG. 20

MEASUREMENT RESULT OF
10-YEAR GUARANTEE

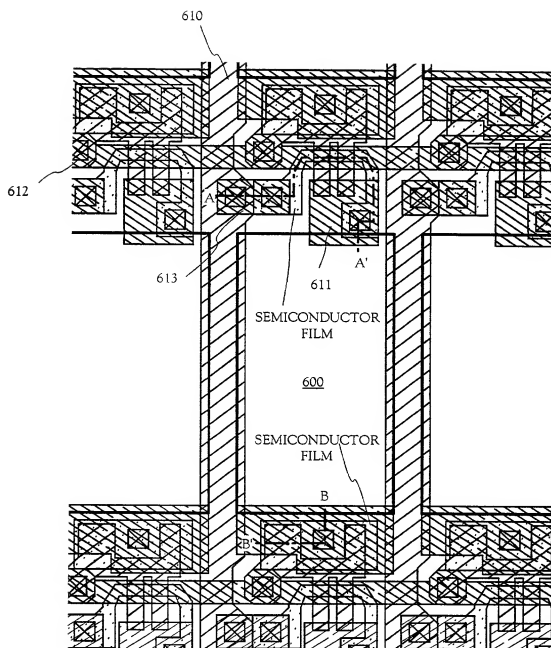


FIG. 22

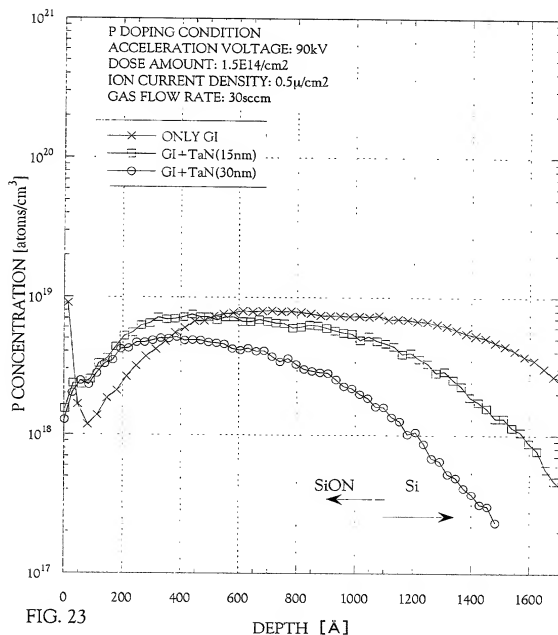


FIG. 23

PHOSPHORUS CONCENTRATION DISTRIBUTION (SIMS ANALYSIS)
IN GI (SiON: 1100Å) AND SEMICONDUCTOR LAYER (Si)
IN SECOND DOPING PROCESS

Ion/Ioff RATIO

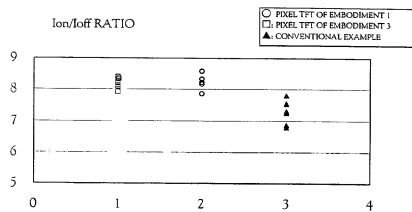


FIG. 24

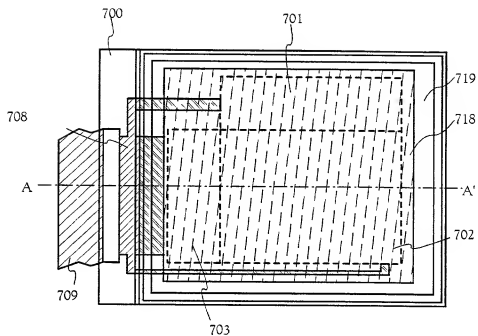


FIG. 25A

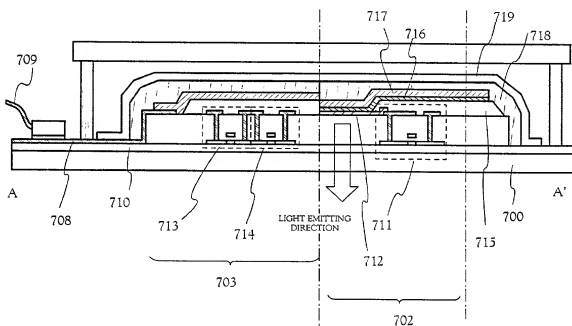


FIG. 25B

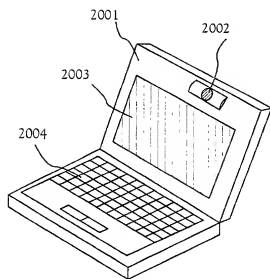


FIG. 26A

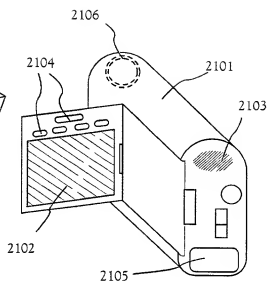


FIG. 26B

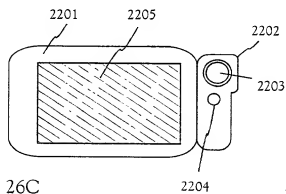


FIG. 26C

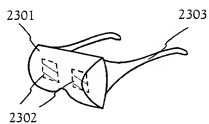


FIG. 26D

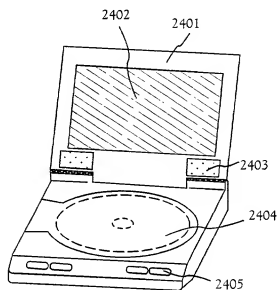


FIG. 26E

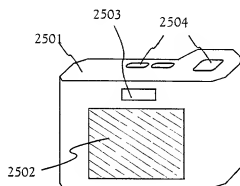


FIG. 26F

FIG. 26A

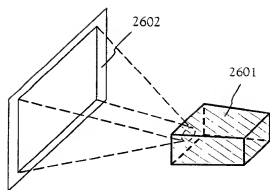


FIG. 27A

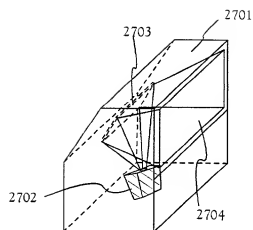


FIG. 27B

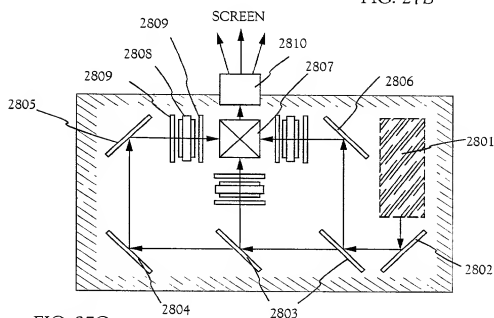


FIG. 27C

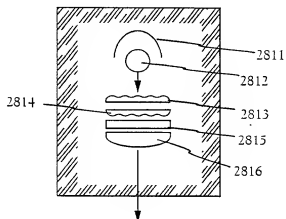


FIG. 27D

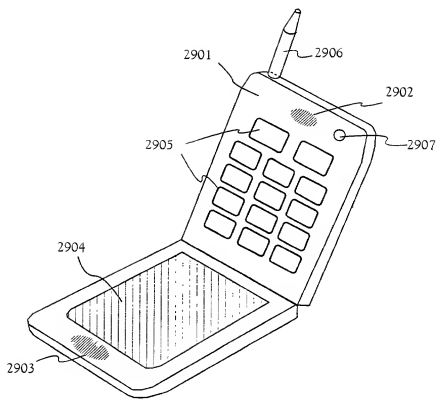


FIG. 28A

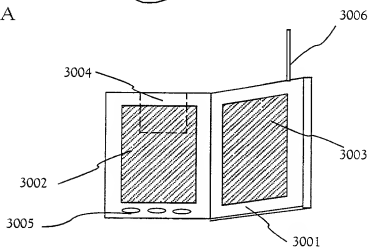


FIG. 28B

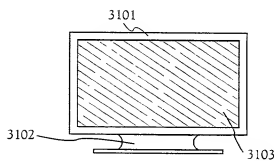
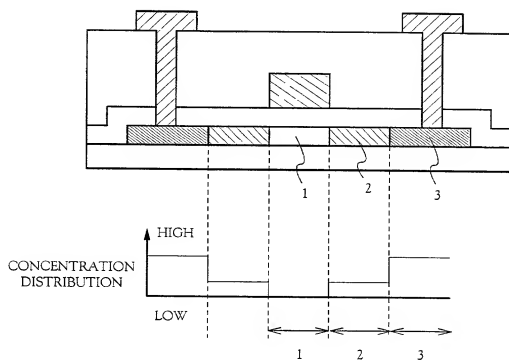


FIG. 28C



PRIOR ART

FIG. 29

(N_{ch}, L/W = 6/4, T_{ox} = 115)

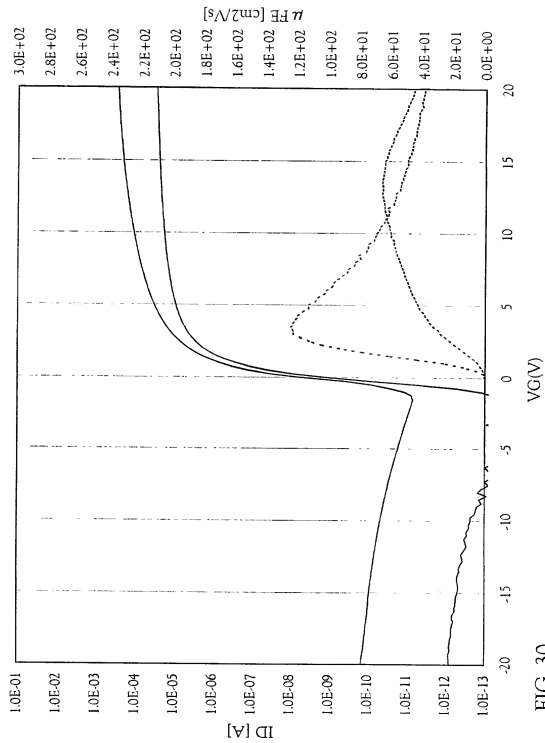
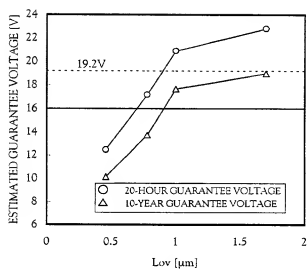
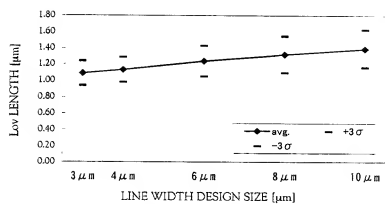


FIG. 30



DEPENDENCE ON L_{ov} LENGTH OF ESTIMATED GUARANTEE VOLTAGE
(10% OF ON CURRENT IS DEGRADATED)
($L_g/W = 10/8 \mu\text{m}$)

FIG. 31



VARIATION OF LINE WIDTH DESIGN SIZE AND Low LENGTH

FIG. 32